LESSON MAKER PRO

Circle Graph Sense

Use parts of a whole to read circle graphs.

GRADE 6 · 6.PS.1

6.PS.1 "The student will apply the data cycle (formulate questions; collect or acquire data; organize and represent data; and analyze data and communicate results) with a focus on circle graphs..."

NAME _____ DATE _____

PARTS MAKE A WHOLE

A circle graph shows how a whole is split into parts. Change a fraction to a percent, or multiply the fraction by 360 to find a slice angle.

WORKED EXAMPLE

In a survey of 24 students, 9 choose biking. What percent and central angle represent biking?

1. 9/24 = 3/8.
2. 3/8 = 37.5%.
3. 3/8 of 360° = 135°.

Answer: 37.5% and 135°

PRACTICE 5 problems

1 3 of 12 students choose comics. What percent and angle represent comics?

ANSWER _____

2 7 of 20 students choose soccer. What percent and angle represent soccer?

ANSWER _____

3 A circle graph shows 30% of 20 students chose chess. How many students chose chess?

ANSWER _____

4 A graph has 1/4 pets, 1/3 sports, and 1/6 music. What fraction, percent, and angle are left?

ANSWER _____

5 A graph shows games 45%, art 30%, and reading 25%. How many percentage points more chose games than reading?

ANSWER _____

APPLY IT Show your work

1 Twenty students choose an after-school activity: skateboarding 8, gaming 6, reading 4, and music 2. Find each percent. Which activity has a 144° slice?

WORK SPACE

ANSWER _____

2 Mia wants a circle graph that represents all 120 sixth graders. She surveys 12 students leaving the art room. Is her sample representative? Give one better way to collect 12 responses.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A circle graph for 12 students shows gaming 50%, sports 1/4, and music 1/6. The rest chose reading. How many chose reading, and what is its central angle?

_____

_____

ANSWER KEY

Circle Graph Sense

GRADE 6 · 6.PS.1

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	3 of 12 students choose comics. What percent and angle represent comics?	**25% and 90°**
2	7 of 20 students choose soccer. What percent and angle represent soccer?	**35% and 126°**
3	A circle graph shows 30% of 20 students chose chess. How many students chose chess?	**6 students**
4	A graph has 1/4 pets, 1/3 sports, and 1/6 music. What fraction, percent, and angle are left?	**1/4, 25%, 90°**
5	A graph shows games 45%, art 30%, and reading 25%. How many percentage points more chose games than reading?	**20 percentage points**

PART 2 · APPLY IT

1. **Skateboarding 40%, gaming 30%, reading 20%, music 10%; skateboarding has a 144° slice.** Divide each count by 20. A 144° slice is 144/360, or 40%.
2. **No. Randomly choose 12 sixth graders from the full sixth-grade roster.** Students leaving the art room may not represent all sixth graders. A random sample from the full grade is less biased.

CHALLENGE

1 student and 30°

Accept equivalent fraction, decimal, or percent forms when they are accurate. For the representative-sample response, accept any method that randomly selects students from the full sixth-grade population.